



Nuclear test “Truckee,” conducted June 9, 1962, south of Christmas Island as part of Operation Dominic.
(Photo: Open Source)



DEBUNKING SIX BIG MYTHS

ABOUT NUCLEAR WEAPONS

For over 20 years—beginning in 1991 with the fall of the Soviet Union and the end of the Cold War—the importance of the nation’s nuclear deterrent has been fading from the public’s mind.

Out of Sight, Out of Mind

Two generations, that is, millions of Americans, have been born and raised and never felt the threat of a nuclear war as did those generations living during the Cold War. They have never pondered the fact that today hundreds of Russian thermonuclear-armed missiles could reach U.S. cities in less time than it takes to have a pizza delivered to their doorstep.

Because they have not felt threatened in decades, many Americans have, understandably, not felt the need for maintaining the U.S. nuclear deterrent, much as healthy people in a waning epidemic might believe there is no longer a need for vaccination. But an epidemic can wax again, and the same is true for nuclear threats from abroad. Letting down one’s guard can be a dangerous proposition.

They Got It

Between the end of World War II and the fall of the Soviet Union, the American public understood nuclear deterrence. *They got it.* The Soviet Union was aggressively trying to expand around the world, and back then it had 10s of thousands of nuclear weapons aimed at the United States. So the United States needed to have its own, and better, weapons to keep the Soviets at bay.

It worked. Because of the U.S. nuclear deterrent, the Soviet expansion was stopped at the Iron Curtain.

Nuclear deterrence is also about preventing not just nuclear wars but also major *conventional* wars, in part because a major conventional war is the most likely road to nuclear war. Over the last several centuries—and with ever-increasing frequency—the world’s major military powers have waged major conventional wars against each other. But due to nuclear deterrence, that has not happened since 1945.

Taking an Intellectual Holiday

The role nuclear deterrence has played since 1945 in preventing a major war is not widely appreciated, so the importance that nuclear deterrence plays in today’s national security is



The Air Force's B-52 Stratofortress has been in active service since 1955. (Photo: Open Source.)

not widely recognized. The public has, as a consequence, lost sight of the continued need for the nuclear enterprise—the weapons; their delivery systems; and the scientific, technological, and manufacturing capabilities, along with the skilled *people* who create and support these. Nor is the public aware that the entire U.S. nuclear enterprise is aging or that there are severe negative consequences that arise from that aging.

Thus, when it comes to the nuclear deterrent, the nation has taken a procurement holiday and, just as important, an intellectual holiday.

It often seems clear that, even within the upper ranks of the military, there are people who don't get it.

Today there are plenty of officers and civilians in the Department of Defense who are well versed in conventional warfare or in counterinsurgency but who have *never* studied the relevance of the U.S. strategic nuclear deterrent. Yet these same people may be helping to formulate national security strategies wherein nuclear deterrence is the *foundation* of national security.

Taking a Procurement Holiday

The “procurement holiday” affecting the nuclear deterrent is a piece of the “peace dividend,” the economic shift away from defense spending following the end of the Cold War. But after two decades, isn't it time to begin reinvesting in the deterrent?

For example, the Air Force is in need of a new long-range bomber. Why? The youngest bomber, the B-2 Spirit Stealth, is now over 20 years old. The oldest bomber, the B-52, is over 50 years old. World War I biplanes would have been younger than that if they had been used in World War II.

As the Air Force's Major General Garrett Harencak puts it, “The fact is my son, who's a lieutenant at Minot Air Force Base, flies the same airplane I flew as a young 20-something pilot in 1984. I don't mean the same *type* of airplane. I mean it's the *same* airplane! It's the same B-52 with the same tail number that I flew as a 23-year-old B-52 pilot out of Blytheville Air Force Base in Arkansas. He's flying that *same* airplane.”

He goes on, “It doesn’t stop there. The way things are going his child—who could graduate from the Air Force Academy in 2036—could also fly that same B-52. Wrap your head around that! So my *grandchild* may someday have to take into combat that very same old airplane that I once flew.”

Of course, the general’s grandson *will* take it into combat if that is what is required. That is what the nation’s warfighters do, every day. They don’t say, “Hey, wait a minute, I don’t want to fly a B-52 that’s over 70 years old!” They don’t say, “Wait, I haven’t flown enough hours yet due to defense budget sequestration!” No, when asked to defend their country they will go, and go with what they’ve got.

If the procurement holiday continues, it looks like the nation is going to ask its sons, granddaughters, nephews, nieces, and friends to go into combat with bombers that old.

Here is another example. The B61 thermonuclear bomb was, like the B-52 bomber, first built in the 1960s using radio-tube-era technology. Production of the B61 ended about 1989. The B61 was designed to have a life expectancy of about 10 years. To remain a credible part of our nuclear deterrent, the B61 needs to be brought into the 21st century. It needs its key components rebuilt, refurbished, or replaced. (This refurbishment, undertaken by Los Alamos and Sandia

National Laboratories in partnership with the Air Force, is underway.)

In contrast, the Russians and the Chinese are modernizing their nuclear forces by designing and building brand-new weapons and delivery systems. Shouldn’t the United States be modernizing and recapitalizing its nuclear deterrent, too?

Granted, doing that is not going to be easy. The nation is in the tough position of needing to upgrade its nuclear weapons systems, and the infrastructure that supports them, in a time of large fiscal difficulties.

How will the nation prioritize funding its needs?

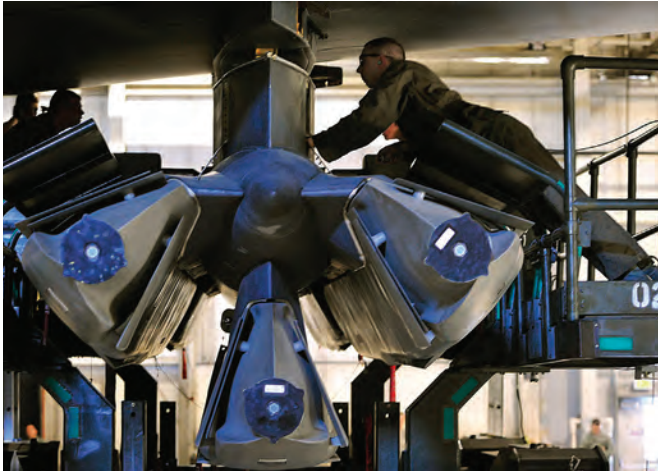
Bombs before Butter?

The Congressional representatives who were around during World War II and the Cold War and who understood the need for nuclear deterrence are mostly gone. They realized Congress would have to set aside funding to maintain the nuclear deterrent for the security of the nation and its allies.

Today, many members of Congress do not support funding our nuclear deterrent. Like the public that elected them, many of them don’t get it. They believe that nuclear weapons are now irrelevant to national security. They believe the

China’s new H-6K strategic bomber, armed with long-range nuclear cruise missiles, can now attack U.S. military bases in South Korea, the Philippines, Guam (all were previously out of reach), and the Japanese mainland without leaving Chinese airspace. The newly built H-6K bombers are capable of launching CJ-10K cruise missiles with an estimated range of up to 1,200 miles. (Illustration: Open Source.)





A pod of cruise missiles being loaded onto a B-52. The B-52 can carry up to 20 nuclear-armed cruise missiles. (Photo: U.S. Air Force)

deterrent is too expensive. These and other myths about nuclear deterrence have arisen since the end of the Cold War. And unchallenged, myths like these make it hard to critically think about the value of the nation's nuclear deterrent.

So let's debunk six of the biggest myths surrounding the nuclear deterrent.



We don't use nuclear weapons.

A myth similar to this one is, "Nuclear weapons will never be used again."

Actually, we *do* use nuclear weapons. We use them *every single day*. They do not have to be used in combat to be doing their job.

The AGM-86B is an air-launched cruise missile that can be launched from a B-52 Stratofortress and can be armed with a nuclear warhead. The AGM-86B was first built in 1977 with a life-expectancy to 2020 but the Air Force plans to extend its service life to 2030 or later. (Photo: U.S. Air Force)

General Harencak, a career bomber pilot who has flown all three of the nation's nuclear bombers (B-52, B-1, and B-2), likes to point out that, "there is *never* a day where there isn't continuous nuclear deterrence in effect. There is never a day when there aren't nuclear-armed submarines at sea and intercontinental ballistic missiles [ICBMs] manned and ready in their silos. Every day there are nuclear-capable bombers and fighters fueled up and ready to fly. Every day these nuclear forces provide the nation and its allies with the nuclear deterrence they need."

When U.S. nuclear weapons are deployed and ready to engage, they make a credible deterrent. Weapons that are not deployed and ready are not credible.

Clearly, there is *never* a day when the nation is not using its nuclear weapons as a credible deterrent. Given the world's current political configuration, nuclear weapons will continue to be of the utmost relevance to U.S. national security into the future. As long as other nations have nuclear weapons, the United States will continue to use its nuclear weapons as a deterrent, every day.



We can't afford nuclear weapons.

This myth *seems* credible—certainly nuclear weapons must be very, very expensive. But costs and benefits are relative things.

Consider this. According to General Harencak, the Air Force's two legs of the nuclear triad, the ICBMs and nuclear-capable aircraft, cost approximately \$5 billion a year to





The U.S. Navy's FA-18 Hornet is designed to be both a fighter plane and a ground attack aircraft. Its versatility allows it to operate from aircraft carriers or land bases. The Hornet is capable of carrying the B61 thermonuclear bomb. The upgraded Super Hornet (shown here), though not designed to carry the B61, is bigger, can carry more munitions, and can fly much farther. (Photo: Open Source)

maintain. Let us put that cost into perspective. Congress has mandated (in the Postal Accountability and Enhancement Act of 2006) that the government put about \$5.5 billion a year into the U.S. Postal Service employees' retirement health and pension benefits. That money is meant to ensure the security of the postal retirees' lives. General Harencak points that, for about \$5 billion, what amounts to only 5 percent of the Air Force's entire budget, the Air Force can maintain its portion of the U.S. nuclear deterrent, which helps to ensure the security of the entire nation—and its allies. From that perspective, \$5 billion is a bargain.



We're stuck in a Cold War mindset.

If by “mindset” one means “military strategies,” then nothing could be further from the truth. The primary Cold War strategy was for the United States to build and deploy enough nuclear weapons to ensure the obliteration of the Soviet Union and its Warsaw Pact allies. The Soviets had the same Cold War strategy regarding the United States and its NATO allies.

Thus at the height of the Cold War, the United States and the Soviet Union each had 10s of thousands of weapons. In 1967

the United States reached its peak in the numbers of weapons in its stockpile: over 31,000. The Soviet Union had thousands more than the United States did: at their peak in 1986, the Soviets had over 45,000.

The Soviet Union and the Warsaw Pact are gone. Russia is the only nation left of that cabal that still has nuclear weapons. So the U.S. Cold War-era strategic plans have changed. The plan now is to negotiate ways of staying numerically matched with Russia but at *agreed-upon* lower numbers. Today, the United States has about 2,200 weapons, and it is reducing that number even further.

But considering that there are more nuclear nations today than during the Cold War, a new U.S. strategic plan cannot be to eliminate all its nuclear weapons. The nation cannot safely let its numbers fall too low even while the nation reduces its stockpile in tandem with Russia. In today's post-Cold War geopolitical environment, these new nuclear-armed countries threaten each other, they threaten this nation, and they make the world vastly more complex and dangerous than it was during the Cold War. This new, post-Cold War geopolitical environment is so different that it creates, essentially, a Second Nuclear Age, one that requires a different “mindset” and new strategic plans.



Major General Harencak is the Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration at U. S. Air Force Headquarters. (Photo: U.S. Air Force)

The Cold War “mindset” and the comparatively simple national security strategies it evoked will not work in today’s geopolitical environment, so the U.S. military’s strategic planners no longer rely upon them.



Nuclear weapons are going away, anyway.

The people who believe this myth tend to do so because they also believe the myth that nuclear weapons are useless and obsolete (see myth #1).

In this “nuclear weapons are going away” myth, the believer predicts that in the near future the world’s leaders—including the Putins and Kim Jong Uns of this world—will come to their senses, meet together in an atmosphere of mutual admiration and respect, resolve their nations’ differences rationally and peacefully, and swear off nuclear weapons (and other weapons of mass destruction) for the good of all people.

Unfortunately, nuclear weapons are not going away any time soon. As long as the world’s population continues to grow exponentially, as long as the world’s climate continues to change and make less of the planet hospitable, and as long as the world’s supplies of water and other natural resources continue to plummet, then nations, tribes, and religions will compete and conflict with each other. Possessing nuclear weapons provides a survival advantage over those nations

that do not have them and a measure of competitive equality with those who do have them. Nature’s law of natural selection and the survival of the fittest suggests that most nuclear nations in conflict will not put their nuclear genie back into the lamp. The laws of nature predict that the nations who do this will not survive.

Sure enough, instead of reducing their stockpiles, other nuclear nations are busy *increasing* their stockpile numbers *and* designing and building newer, more-modern weapons and weapon delivery systems.

At the same time, some nonnuclear nations, such as Poland, Turkey, and Ukraine are debating whether to become nuclear weapons states and doing so openly. Other nonnuclear nations may be having that debate in secret or may already be secretly rubbing the nuclear genie’s lamp.

As long as nuclear weapons exist anywhere in the world, as long as state and nonstate actors have nuclear weapons or seek to acquire them, this nation must retain its nuclear deterrent to counter them. The

United States is reducing the numbers in its stockpile, but the president has also committed the nation to maintaining a nuclear deterrent that is safe, secure, and effective for as long as other nations possess nuclear weapons.

How long will that be? As long as they are struggling with one another for survival, nations that possess weapons will continue to have them and will continue to improve their stockpiles, and other nations will seek out their own.

Given these realities, nuclear weapons are not going away.



We can do it all with submarines.

Many people believe the nation can provide itself all the deterrence it needs by relying on its nuclear-armed Trident submarines. With budgets constrained and with the belief that nuclear weapons will eventually go away, this is an attractive myth.

However, as nuclear weapons are not going away consider this: the “nuclear triad,” composed of nuclear-capable aircraft, ICBMs, and submarines, is still the most effective way to provide the national security the president promises. The strategic logic behind the nuclear triad is this: having three very different nuclear systems, each with hundreds of weapons, eliminates any likelihood that an adversarial nation could destroy the entire deterrent in a first strike. No first strike could destroy all U.S. ICBMs, nuclear bombers, and submarines. Currently, only the Russians have enough

missiles to hold a large number, but not all, of the nation's nuclear weapons at risk.

The triad guarantees to the nation, its allies, and its adversaries that the United States will have the capability for a substantial retaliatory strike. If an adversarial nation knows the United States can and will strike back with an ample number of nuclear weapons, they are deterred from shooting first.

Each leg of the triad is also important because it has significant strategic advantages over the other two. The missiles—ICBMs and air-launched cruise missiles—are too numerous to be destroyed in a first strike. In addition, the cruise missiles can be widely deployed making them harder to find and destroy.

Submarines are fundamental to the triad because they can carry about half of the active U.S. nuclear stockpile. They are constantly moving beneath the sea, making this half of the nation's nuclear deterrent all but undetectable. If it cannot be found it cannot be destroyed.

Whereas ICBMs, submarine-launched missiles, and cruise missiles are committed once they are launched, nuclear-armed bombers can be retargeted or even recalled if the president deems it necessary. With midair refueling, bombers can fly to anywhere on the planet. This means that, unlike ICBMs or submarine-launched missiles, bombers armed with bombs or cruise missiles can hold at risk any target anywhere in the world.

Bombers can pack a bigger- or smaller-yield nuclear bomb (in addition to carrying conventional munitions), which gives the president important strategic options. Why launch a big, multiwarhead-armed missile if a single small warhead will do the job with less collateral damage?

Bombers are not as vulnerable as some might think. For example, armed with nuclear-tipped cruise missiles, bombers can attack outside an adversary's air defenses.

Unlike submarines and ICBMs, bombers can be *seen*. When nuclear-capable bombers go on alert, the fueling, arming, and crewing activities are obvious to adversaries with spy

The U.S. Navy Trident submarine first entered service in 1981. Currently, the Navy sails 14 Ohio-class Tridents armed with 24 Trident II D5 intercontinental ballistic missiles. Four other Tridents have been converted to carry missiles with conventional warheads. (Photo: U.S. Navy)



satellites, meaning the president can send a powerful message to those adversaries to “stand down.”

What about those adversaries without satellites? Following North Korea’s nuclear test in 2013, the president ordered a couple of B-2 Stealth bombers to fly all the way from Missouri to South Korea—over 6,500 miles. The world press described these bombers not as “the bat-winged B-2” or as “B-2 Stealth,” but as “B-2 *nuclear-capable* Stealth bombers.” Making that point matters.

Again, in June 2014, following Russia’s occupation of Crimea and the shooting down of a Malaysian passenger jet over the Ukraine, the president ordered B-2 and B-52 bombers, again described in the press as “nuclear-capable bombers,” to fly to the United Kingdom for training and exercises with NATO forces. These kinds of U.S. nuclear bomber flights have not occurred in over a decade. They were designed to send the following powerful message of support to the NATO allies: the United States is committed to protecting NATO with its nuclear capabilities.

The president could not have made such blatant, in-your-face shows of force by opening up an ICBM silo in a Montana wheat field or surfacing a submarine and opening up a missile tube to show the news media. Nuclear-capable bombers make strategic statements and show U.S. resolve in ways that submarines and ICBMs cannot. Bombers can provide a clear and immediate show of force to adversaries of the United States and its allies. They give the president a

quick way to demonstrate overwhelming strength in response to escalating confrontations.

Rather than reduce the triad, the Air Force is hoping to build a modern, long-range-strike bomber that would increase the current bombers’ range without the expense and risk of refueling. The new bomber would also have a host of other advanced attributes—like improved payload capabilities and survivability—and would eventually be nuclear capable. All these qualities would give the president more flexibility and more options for avoiding a war, or winning the war should war become necessary.

Are the nation’s nuclear submarines ready to become the nation’s primary or even sole source of its nuclear deterrence? U. S. Ohio-class submarines are getting old and approaching the end of their life expectancy; they were first commissioned in 1981. To maintain this boat’s role as one part of the triad, much less giving it a more prominent role, the nation needs to build a replacement for the Ohio-class submarine.

Each leg of the triad has its own unique strengths. Bombers and ICBMs are not, as some folks believe, irrelevant to deterrence. Submarines do not make them redundant. Having all three systems in a triad provides the balance needed for the president to make a clear show of force and have a variety of military response options. Only the triad provides the kind of variety in weapons and delivery systems that guarantees to the nation, its allies, and its adversaries that there can and will be a second strike.

The North Koreans continue to develop their nuclear weapons program and threaten to use their weapons on South Korea and Japan. If the United States continues to reduce the size of its nuclear deterrent, will South Korea and Japan feel unprotected and begin building their own nuclear weapons programs? Kim Jong Un (center) is shown here visiting a military flight exercise in Pyongyang, North Korea, in March 2014. (Photo: Open Source)



The triad has worked well to help maintain world stability. Together, the legs of the triad ensure the nation has a powerful, survivable nuclear deterrent. And the diversity of the triad becomes all the more strategically important as the nation works toward further lowering the numbers of weapons in the stockpile.

To believe that the nation can count on submarines alone belies the triad's strategic logic. Submarines, in conjunction with the other legs of the triad, help guarantee the nation always has that second-strike capability.

So, no, subs alone cannot do it all.



The fewer nuclear weapons there are, the safer the world becomes.

This is a very important myth to debunk, particularly for those who push for deeper and deeper arms reductions. Because when it comes to making a causal relationship between the numbers of nuclear weapons and world instability, maybe less is not less—maybe less is *more*. In other words, fewer nukes may actually *increase* world instability and the risk of nuclear war.

Counterintuitive? Well, *lowering* the U.S. stockpile numbers makes it attractive for other nuclear nations to build *more* of their own weapons. Parity in the number of nuclear weapons is a strategic goal for nations with fewer weapons when they are in competition with nations possessing more. As nations with bigger stockpiles reduce their stockpile numbers, nations with smaller stockpiles realize that parity may suddenly be within their reach.

For example, if the United States reduces its stockpile to a few hundred weapons, nations like China, India, and Pakistan, who currently possess weapons numbering in the low hundreds but have the capacity to make many more, may be enticed to match the U.S. stockpile number—or even *surpass* it. How would their building more nuclear weapons make the world more stable? How would having an expansionist China being on nuclear par with the United States improve world stability?

Additionally, will lower stockpile numbers affect the nation's ability to reassure its allies that it still has the will *and the means* to protect them? Will lower numbers give them a continued feeling of security? Or will our allies wonder if the United States can still defend them? Maybe U.S. allies will feel the need to start their *own* nuclear weapons programs.

In some cases, this might be very easy for them to do. Some have even tried. For example, when in 1970 the United States planned to withdraw troops from South Korea, the South Koreans, fearing North Korea, began a secret nuclear weapons research program. Once discovered, under U.S. pressure, South Korea ended the program. Then in 2004 the

International Atomic Energy Agency revealed that South Korea had had *another* secret nuclear program underway since the 1980s. The South Koreans were forced to stop this program, too.

In a 2013 poll, following North Korea's third nuclear test, two-thirds of surveyed South Koreans supported the idea of South Korea's building its own nuclear weapons. If South Korea's fears of North Korea become compounded by the United States' announcing its intentions to make further, significant reductions in its nuclear stockpiles—thereby, in South Korea's view, shrinking the U.S. nuclear umbrella over South Korea—will even *more* South Koreans support their nation's joining the nuclear-weapons club? Would a nuclear-armed North Korea *and* South Korea make the world more secure?

The causal relationship between the numbers of nuclear weapons and world instability is neither a simple nor an intuitive one. Nor is it a positive correlation. This is why, when it comes to the relationship between the numbers of nuclear weapons and world instability, less is not necessarily less—less may be more.

Congress, College, and the Kiwanis Club

It has been more than 70 years since the world's major powers tangled in a huge, hot war and more than 20 years since the end of the Cold War. The threat of a major conventional war or a nuclear war has slipped from the daily thoughts of U.S. baby boomers. These threats have *never* darkened the hopes or dreams of Generation X or the Millennials. The importance of the nation's nuclear deterrent is, today, far from the public's mind. Ironically, the very success of the U.S. nuclear deterrent largely explains why so many people today give it neither attention nor respect.

Myths arise around things that—like the U.S. nuclear deterrent—are misunderstood, little known, and greatly feared. Myths surrounding the U.S. nuclear deterrent's role in national security, its cost, its content, and its current health are not then unexpected.

For the sake of U.S. national security and world stability, these myths must be debunked in Congress, in colleges, and even in the Kiwanis Club down the street. ✦

~ Clay Dillingham